APPENDIX C

THREATENED, ENDANGERED, PROPOSED AND CANDIDATE SPECIES
USFS SENSITIVE SPECIES
BLM SENSITIVE SPECIES
STATE SPECIES OF SPECIAL INTEREST

THREATENED, ENDANGERED, PROPOSED AND CANDIDATE SPECIES

The Endangered Species Act (ESA) (16 U.S.C. 1531-1543) protects plant and animal species that are listed as T&E as well as their critical habitats. Endangered species are defined as those that are in danger of extinction throughout all or a significant portion of their range. Threatened species are those that are likely to become endangered in the foreseeable future throughout all or a significant portion of their range. Proposed species are those species that have been proposed in the *Federal Register* to be listed under Section 4 of the ESA. An additional classification – candidate species (formerly Category 1 candidate species) – includes species for which the USFWS has sufficient data to list as T&E but for which development of proposed rules is precluded by higher priority listing activities.

Under provisions of the ESA, federal agencies are directed to seek to conserve endangered and threatened species and to ensure that actions authorized, funded, or carried out by them are not likely to jeopardize the continued existence of any threatened or endangered species, or result in the destruction or adverse modification of their critical habitat. The following paragraphs summarize the Proposed Action and the available information on threatened, endangered, proposed, and candidate species, USFS sensitive species, and Wyoming state species of special concern that are known to be present or potentially present on the lands involved in the exchange proposal.

Description of the Proposed Action

Under the Proposed Action, the USFS would acquire ownership of the Bridger lands which lie within BTNF and the BLM would acquire the Bridger lands which lie outside of BTNF, the JO Ranch lands and the Welch lands (see Figures 1-1, 1-2, 1-3, and 1-4 and the land descriptions in Section 2.1 of the DEIS). The Bridger and JO Ranch lands are private inholdings surrounded by lands administered by the USFS and BLM. The Welch lands are surrounded by private lands. The current owner of the lands being offered for exchange is P&M. P&M is offering to exchange the surface estate of the lands and the portion of the mineral estate that they own on those lands. P&M's ownership of the mineral estate, which is described in Section 2.1, varies from tract to tract.

If the exchange is completed under the Proposed Action, P&M would acquire an amount of federal coal equivalent in value to the properties they are offering for exchange. For the purposes of this analysis, it is assumed that P&M would acquire all of the federal coal underlying the PSO Tract (see Figures 1-1 and 1-5 and the land description in Section 2.1 of the DEIS). The majority of the surface of the PSO Tract is privately owned, and P&M is the primary private surface owner. There are 6.41 acres of BLM-administered public surface included in the

PSO Tract (see Figure 3-9 of the DEIS). If P&M acquires the coal included in the PSO Tract, they propose to open a surface coal mine and recover the coal in the tract as well as some privately-owned coal adjacent to the tract. The area proposed for mining is shown in Figure 2-2 of the DEIS.

ENDANGERED, THREATENED, PROPOSED, AND CANDIDATE SPECIES BIOLOGY AND HABITAT REQUIREMENTS

The following species have been identified as known, suspected to occur, or potentially occurring on the lands involved in this exchange.

Threatened Species

Grizzly bear (Ursus arctos horribilis)
Grizzly bears are native to North America. In the contiguous United States, they were extirpated from about 98% of their historic range between 1850 and 1950 by human-caused mortality (USFWS 1993). The Greater Yellowstone Area provides habitat for one of the five remaining populations of grizzly bears in the contiguous states. Grizzly bears in this region were listed as threatened under ESA in 1975.

Since 1975, the annual population estimate for the Yellowstone population, which is derived from the number of unduplicated females with cubs observed each year, has increased. While part of this increase may be due to changes in survey methodology, because these estimates are based on bears actually observed, they represent a minimum and thus are believed to be conservative. Recent calculations of the population's growth rate have shown an increasing trend (Eberhardt and Knight 1996).

These demographic criteria apply to both the recovery zone as well as a 10-mile wide buffer area around it. The 10-mile buffer area is included in population monitoring in recognition that many bears with home ranges in the recovery zone will also use areas outside but immediately adjacent to it.

Bald eagle (Haliaetus leucocephalus)
Bald eagles are a federally-listed threatened species (USFWS 1995). Bald eagles occur throughout North America from Alaska to Newfoundland, and from the southern tip of Florida to southern California. In Wyoming, this species builds large nests in the crowns of large mature trees such as cottonwoods or pines. Food availability is probably the single most important determining factor for bald eagle distribution and abundance. Fish and waterfowl are the primary sources of food where eagles occur along rivers and lakes. Big game and livestock carrion, as well as larger rodents (e.g., prairie dogs) also can be important dietary components where these resources are available (Ehrlich et al. 1988). This species is an uncommon breeding resident in Wyoming utilizing mixed coniferous

and mature cottonwood-riparian areas near large lakes or rivers as nesting habitat (Luce et al. 1999).

Bald eagles are closely associated with water, with nest sites commonly less than one mile from a lakeshore or riverbank. Large trees are necessary to support eagle nests, typically cottonwoods or several conifer species. Nest trees are often the largest trees in the stand. Typically, there are alternate nests within or in close proximity to the nest stand. Snags and open-canopied trees near the nest site and foraging areas provide favorable perch sites. Old-growth stands with their structural diversity and open canopies are an important habitat for bald eagles. Bald eagles that have open water or alternate food sources near their nesting territories may stay for the winter, other eagles migrate southward to areas with available prey.

Canada lynx (Lynx canadensis)

The Canada lynx was listed as a threatened species in March 2000. Lynx habitat is closely associated with the habitat requirements of snowshoe hare (Lepus americanus), its primary prey. Hares prefer dense mixed conifer stands for cover, with meadows and other openings for feeding. Red squirrels, ground squirrels, and grouse can be alternate prey items. Mature forests with downed logs and windfalls provide denning and security cover for lynx. Lynx are found in high elevation areas with deep snows where lynx have a competitive advantage over other predators. It appears historic tie hack areas are currently providing high quality lynx habitat within the Wyoming Range. These old tie hack areas contain multiple storied, mixed conifer stands with a dense understory of regenerating spruce and fir.

Ute ladies'-tresses (Spiranthes diluvialis)

Ute ladies'-tresses was listed as threatened on January 17, 1992 due to a variety of factors, including habitat loss and modification, and hydrological modifications of existing and potential habitat areas. At the time of listing, Ute ladies'-tresses was only known from Colorado, Utah, and extreme eastern Nevada. It was then discovered in Idaho in September 1996.

Ute ladies'-tresses is a perennial herb with erect, glandular-pubescent stems 12 to 50 centimeters tall arising from tuberous-thickened roots. This species flowers from late July to September. Plants probably do not flower every year and may remain dormant below ground during drought years.

The total known population of this species is approximately 25,000 to 30,000 individuals. Occurrences range in size from one plant to a few hundred individuals. It is currently known from western Nebraska, southeastern Wyoming, north-central Colorado, northeastern and southern Utah, east-central Idaho, southwestern Montana, and central Washington. In Wyoming, Ute ladies'-tresses

is known from the western Great Plains in Converse, Goshen, Laramie and Niobrara counties.

Rangewide, Ute ladies'-tresses occurs primarily on moist, subirrigated or seasonally flooded soils in valley bottoms, gravel bars, old oxbows or floodplains bordering springs, lakes, rivers or perennial streams at elevations between 1,780 and 6,800 ft. elevation (Fertig and Beauvais 1999). Suitable soils vary from sandy or coarse cobbley alluvium to calcareous, histic or fine-textured clays and loams. Populations have been documented from alkaline sedge meadows, riverine floodplains, flooded alkaline meadows adjacent to ponderosa pine, Douglas-fir woodlands, sagebrush steppe, and streamside floodplains. Some occurrences are also found on agricultural lands managed for winter or early season grazing or hay production. Known sites often have low vegetative cover and may be subjected to periodic disturbances such as flooding or grazing. Populations are often dynamic and "move" within a watershed as disturbances create new habitat or succession eliminates old habitat (Fertig and Beauvais 1999).

This species is known from four occurrences in Wyoming, all discovered between 1993-1997 (Fertig and Beauvais 1999). One of these occurrences is recorded from northwestern Converse County.

Endangered Species

Black-footed Ferret (Mustela nigripes)

Black-footed ferret is a federally-listed endangered species. The black-footed ferret historically occurred throughout Texas, Oklahoma, New Mexico, Arizona, Utah, Kansas, North and South Dakota, Montana, Wyoming, Nebraska, and Colorado (USFWS 1970). The black-footed ferret is closely associated with prairie dogs, depending almost entirely upon the prairie dog for its survival. The decline in ferret populations has been attributed to the reduction in the extensive prairie dog colonies that historically existed in the western United States. Ferrets may occur within colonies of white-tailed or black-tailed prairie dogs. The USFWS has determined that, at a minimum, potential habitat for the black-footed ferret must include a single white-tailed prairie dog colony of greater than 200 acres, or a complex of smaller colonies within a 4.3 mile (7 km) radius circle totaling 200 acres (USFWS 1989). Minimum colony size for black-tailed prairie dog is 80 acres (USFWS 1989). The last known wild population was discovered in Meeteetse, Wyoming. Individuals from this population were captured and raised in protective captive breeding facilities in an effort to prevent the species' extinction (Clark and Stromberg 1987).

Recent survey efforts in the Shirley Basin have identified a population at this former re-introduction site. This is the only known population in Wyoming.

Experimental Populations

Gray wolf (Canis lupus)
In 1973, the northern Rocky Mountain wolf subspecies (then known as Canis lupus irremotus) was listed as endangered, and in 1978 the legal status of the gray wolf south of Canada was listed as endangered, while the Minnesota wolf population was listed as threatened. Then in 1994 the U.S. Fish and Wildlife Service made the decision to reintroduce the gray wolf into Yellowstone National Park and classify this population as nonessential experimental wolves according to section 10(j) of the ESA as amended (USFWS 1994). All wolves occurring in the state of Wyoming are classified as nonessential experimental.

Although gray wolves are native to BTNF, human persecution resulted in the extirpation of wolves by the late 1920s. Unverified reports of wolves or wolf tracks have been received since the late 1960s within Grand Teton National Park (Grand Teton National Park wildlife observation files) and in and around BTNF (BTNF wildlife files). Human caused mortality is still a major factor limiting wolf numbers.

Reintroduction efforts in Yellowstone began in the winter of 1994-1995, and a total of 31 wolves were released over two years. The Recovery Plan for wolves in the Rocky Mountain area established a biological goal of $ 10 breeding pairs of wolves in each of the 3 recovery areas (northwestern Montana, central Idaho, and Greater Yellowstone Area) for 3 successive years. Wolf recovery has progressed faster than predicted, and populations became established within 2 years after reintroduction instead of the predicted 3-5 years. In 1999, at least 118 wolves were known to be present in the Greater Yellowstone Wolf Recovery Area, in 11 established packs averaging 9.2 wolves per pack.

The USFWS also determined “when six or more breeding pairs are established in an experimental population area, no land-use restrictions may be employed outside of national parks or national wildlife refuges, unless wolf populations fail to maintain positive growth rates toward population recovery levels for 2 consecutive years” (USFWS 1994).

Whooping crane (Grus americana)
In 1997, USFWS designated whooping cranes of the Rocky Mountains as experimental nonessential (USFWS 1997).

Whooping crane habitat contains wetlands, potholes and lakeshores with abundant emergent vegetation and the adjacent uplands. Cranes are sensitive to human disturbance and will abandon their nests if disturbed. Whooping cranes are rare summer residents and migrate to refuges in Texas and New Mexico for the winter.

Proposed Species

Mountain Plover (Charadrius montanus)
The mountain plover is proposed for federal listing (USFWS 1999a). The USFWS has 60 days to seek input from three species experts, the public, scientific community, and Federal and State agencies. The USFWS published a 60-day extension to the comment period on April 19, 1999 (USFWS 1999b). In October 2001, the USFWS designated the mountain plover as a proposed threatened species (USFWS 2001a).

This species utilizes high, dry, shortgrass prairie with vegetation typically shorter than four inches tall. Within this habitat, areas of blue grama (Bouteloua gracilis) and buffalograss (Buchloe dactyloides) are most often utilized, as well as areas of mixed-grass associations dominated by needle-and-thread (Stipa comata) and blue grama (Dinsmore 1983).

Nests consist of a small scrape on flat ground in open areas. Most nests are placed on slopes of less than five degrees in areas where vegetation is less than three inches tall in April. More than half of identified nests occurred within 12 inches of old cow manure piles and almost twenty percent were found against old manure piles in similar habitats in Colorado. Nests in similar habitats in Montana (Dinsmore 1983) and other areas (Ehrlich et al. 1988) were nearly always associated with the heavily grazed shortgrass vegetation of prairie dog colonies.

Mountain plovers arrive on their breeding grounds in late March with egg-laying beginning in late April. Clutches are hatched by late June and chicks fledge by late July. The fall migration begins in late August and most birds are gone from the breeding grounds by late September.

Black-tailed Prairie Dog (Cynomys ludovicianus)
Black-tailed prairie dog was added to the list of candidate species for federal listing on February 4, 2000 (USFWS 2000a). At that time, the USFWS concluded that listing the black-tailed prairie dog was warranted but precluded by other higher priority actions to amend the lists of threatened and endangered species. No specific date for proposal for listing was given, but the USFWS has committed to reviewing the status of the species one year after publication of the above-mentioned notice (i.e. on February 4, 2001) (USFWS 2000b). As of October 2001, the candidate status of the black-tailed prairie dog status had not been changed by the USFWS (USFWS 2001a).

The black-tailed prairie dog is a highly social, diurnally active, burrowing mammal. Aggregations of individual burrows, known as colonies, form the basic unit of prairie dog populations. Found throughout the Great Plains in shortgrass and mixed-grass prairie areas (Fitzgerald et al. 1994), the black-tailed prairie dog has declined in population numbers and extent of colonies in recent years due to

habitat destruction or disturbance and pest control activities. In Wyoming, this species is primarily found in isolated populations in the eastern half of the state (Clark and Stromberg 1987). Many other wildlife species, such as the black-footed ferret, swift fox, mountain plover, ferruginous hawk and burrowing owl are dependant on the black-tailed prairie dog for some portion of their life cycle (USFWS 2000b).

This species is considered a common resident, utilizing shortgrass and mid-grass habitats in eastern Wyoming (Luce et al. 1999).

BRIDGER LANDS

The location of the Bridger lands is shown in Figure 1-2 of the DEIS. USFS also provided general resource information for the Bridger parcels that lie within the BTNF, which is included as Appendix D.

Within the analysis area, there is no "critical" habitat designated by USFWS for threatened or endangered species. The following table is a list of threatened, endangered, experimental, candidate and proposed species known or suspected to occur in the Bridger lands that was provided to the USFS by USFWS in April 2001 (ES-61411).

Threatened, Endangered, Experimental, Proposed, and Candidate Species

Status	Name	Status*
Threatened:	Grizzly bear (Ursus arctos horribilis)	NS
	Bald eagle (Haliaetus leucocephalus)	K
	Canada lynx (Lynx canadensis)	K
	Ute ladies'-tresses (Spiranthes diluvialis)	NS
Endangered:	Kendall Warm Springs Dace (Rhinichthys osculus thermalis)	NS
	Bonytail chub (Gila elegans)	NS
	Colorado pikeminnow (Ptychocheilus lucius)	NS
	Humpback chub (Gila cypha)	NS
	Razorback sucker (Xyrauchen texanus)	NS
	Black-footed ferret (Mustela nigripes)	NS
Experimental:	Gray wolf (Canis lupus)	S
	Whooping crane (Grus americana)	NS
Proposed:	Mountain plover (Charadrius montanus)	NS
Candidate:	Black-tailed prairie dog (Cynomys ludovicianus)	NS

Status Key: K = known, S = suspected in area of influence of proposed action NS = not suspected in area of influence of proposed action

Threatened Species

Grizzly bear (Ursus arctos horribilis)
Existing Environment: The Bridger parcels are approximately 60 miles from occupied habitat, the recovery area and 10-mile buffer. There have been no confirmed grizzly sightings in or near the analysis area.

Effects of Proposed Project: The Proposed Action will have no effect on grizzly bears or their habitat.

Bald eagle (Haliaetus leucocephalus)
Existing Environment: There is bald eagle habitat available in the analysis area, however the majority of the Bridger parcels are not typically considered bald eagle habitat (lodgepole pine, aspen, sagebrush meadow). Eagles forage on gut piles and game parts leftover from hunters in the fall regardless of the habitat type where they occur.

Effects of Proposed Project: The Proposed Action may affect, but is not likely to adversely affect, bald eagles or their habitat. Any effects are likely to be beneficial. If the exchange is completed, USFS and BLM would acquire surface and mineral ownership of the Bridger lands shown in Figure 1-2, which would consolidate USFS and BLM management in the area of the Bridger parcels. This would facilitate habitat management and protection of T&E species on the tracts by the USFS and BLM. The rights to develop the surface and mineral estates would not remain in private ownership, and the lands and minerals would not be available for private development that could potentially affect bald eagles in this area in the future.

Canada lynx (Lynx canadensis)
Existing Environment: It appears historic tie hack areas are currently providing high quality lynx habitat within the Wyoming Range. These old tie hack areas contain multiple storied, mixed conifer stands with a dense understory of regenerating spruce and fir. No tie hacking has occurred within or near the project area. A radio-collared lynx has been documented approximately 20 miles north of the Bridger parcels. A winter track survey was conducted winter 2000/2001 on portions of the Kemmerer District although not in the project area. A resident population is present to the north on the Big Piney Ranger District. Although no lynx activity has been documented within the Bridger parcels lynx likely do travel through the project area.

Effects of Proposed Project: The Proposed Action may affect, but is not likely to adversely affect, Canada lynx and their habitat. If the exchange is completed, USFS and BLM would acquire surface and mineral ownership of the Bridger lands shown in Figure 1-2, which would consolidate USFS and BLM management in the area of the Bridger parcels. This would facilitate habitat management and

protection of T&E species on the tracts by the USFS and BLM. The lands and minerals would not be available for private development that could potentially affect Canada lynx if they do establish a presence in this area in the future.

Ute ladies'-tresses (Spiranthes diluvialis)

Existing Environment: Ute ladies'-tresses has not been located and is not expected as the analysis area is above the expected elevation range of this plant. However, no survey work has occurred.

Effects of Proposed Project: In BTNF, the Proposed Action will have no effect on Ute ladies'-tresses.

Endangered Species

Black-footed ferret (Mustela nigripes)

Existing Environment: Black-footed ferrets are potential residents in prairie dog (Cynomys sp.) colonies. There are no prairie dog colonies in or near the project area.

Effects of the Proposed Project: In BTNF, the Proposed Action will have no effect on black-footed ferrets.

Kendall Warm Springs Dace, Bonytail Chub, Colorado Pikeminnow, Humpback Chub, and Razorback Sucker

Existing Environment: The Kendall Warm Springs dace does not occur on the Kemmerer Ranger District or within the project area; it only occurs within the Kendall Warm Springs located on the Pinedale Ranger District. Bonytail chub, Colorado pikeminnow, humpback chub, and razorback sucker are native to the Upper Colorado River Basin within mainstem river channels, not the project area's headwater streams.

Effects of the Proposed Action: The Proposed Action will have no effect on the Kendall Warm Springs dace, bonytail chub, Colorado pikeminnow, humpback chub, or razorback sucker.

Experimental Populations

Gray wolf (Canis lupus)

Existing Environment. Three of the Greater Yellowstone Area packs, the Teton, Gros Ventre, and Soda Butte packs, all included BTNF within their home range in 1999. Two of these packs used BTNF in 2000 and 2001 (Teton and Gros Ventre packs). Pack activity has been predominantly on the Teton Division of BTNF, a considerable distance north of the project area. Single wolves have been documented on the Pinedale Ranger District, Grey's River District, and as far south as Kemmerer. Conflicts have occurred between wolves and domestic

livestock and dogs both on USFS system lands and on private lands as far south as Kemmerer. No single wolves or pack activity has been documented on the Bridger parcels.

Effects of Proposed Project: The Proposed Action is not likely to jeopardize the continued existence of the experimental gray wolf population. However, if the exchange is completed, USFS and BLM would acquire surface and mineral ownership of the Bridger lands shown in Figure 1-2, which would consolidate USFS and BLM management in the area of the Bridger parcels. This would facilitate habitat management and protection of T&E species on the tracts by the USFS and BLM. The lands and minerals would not be available for private development that could potentially affect gray wolves if they do establish a presence in this area in the future.

Whooping crane (Grus americana)
Existing Environment: Whooping cranes have been documented on BTNF in the Upper Green River drainage during summer months, a considerable distance north of the project area. Typically one bird is seen, but this single bird has not been seen for a number of years. No reproductive activity has occurred. In addition, no suitable habitat is located within the project area.

Effects of Proposed Project: The Proposed Action will have no effect on whooping cranes.

Proposed Species

Mountain plover (Charadrius montanus)
Existing Environment: Mountain plover is a potential resident in shortgrass prairie and shrub-steppe landscapes. The Bridger lands are primarily forested. No potential habitat exists in the project area.

Effects of the Proposed Project: In BTNF, the Proposed Action will have no effect on mountain plover.

Candidate Species

Black-tailed Prairie Dog (Cynomys ludovicianus)
Existing Environment: There are no prairie dog colonies in or near the project area.

Effects of the Proposed Project: In BTNF, the Proposed Action will have no effect on black-tailed prairie dogs.

JO RANCH LANDS, WELCH LANDS, AND PSO TRACT

The locations of the JO Ranch lands, Welch lands, and PSO Tract are shown in Figure 1-3, 1-4 and 1-5, respectively, of the DEIS.

The following list of threatened, endangered and proposed species that might be present in these areas is based on information provided by the USFWS.

Threatened, Endangered, Candidate, and Proposed Species Potentially Present in the Area of the JO Ranch Lands, Welch Lands and PSO Tract.

Status	Name
Threatened:	Bald eagle (Haliaetus leucocephalus)
	Canada lynx (Lynx canadensis)
	Ute ladies'-tresses (Spiranthes diluvialis)
Endangered:	Black-footed ferret (Mustela nigripes)
	Colorado Pikeminnow (Ptychocheilus lucius)
	Humpback Chub (Gila cypha)
	Bonytail Chub (Gila elegans)
	Razorback Sucker (Xyrauchen texanus)
Proposed:	Mountain plover (Charadrius montanus)
Candidate:	Black-tailed prairie dog (Cynomys ludovicianus)

JO Ranch Lands

Existing Environment: Cow Creek flows through the JO Ranch lands that the BLM Rawlins Field Office would acquire. Cow Creek is a tributary of Muddy Creek which is within the Colorado River Basin. The Colorado pikeminnow, humpback chub, bonytail chub, and razorback sucker, which are endangered species, are native to the Upper Colorado River Basin. The USFWS has determined that water depletion projects occurring within the Colorado River Basin may affect these four fish species. Furthermore, any new depletion over 100 ac-ft will require a payment to the National Fish and Wildlife Foundation and legal protection of instream flows will occur.

There is potential for Ute ladies'-tresses to occur on these lands; however, the JO Ranch lands have not been surveyed at this time.

There also is potential for mountain plover habitat to occur on the JO Ranch lands on the non-riparian parcels associated with the lands proposed exchange.

Effects of the Proposed Project: The proposed land exchange may affect, but is unlikely to adversely effect, the Colorado River endangered fishes, Ute ladies'-tresses and mountain plovers. If the exchange is completed, BLM would acquire surface ownership of the JO Ranch lands shown in Figure 1-3, which would consolidate BLM management in this area. This would facilitate habitat management and protection of T&E species on these lands by BLM. The rights to develop the surface would not remain in private ownership, and the lands would not be available for private development that could potentially affect T&E species in the future. The rights to develop the mineral estate would not be changed if the exchange is completed.

Welch Lands

Existing Environment: The Tongue River flows through the Welch lands that the BLM Buffalo Field Office would acquire if the exchange is completed. Bald eagle, black-footed ferret, Ute ladies'-tresses, mountain plover, and black-tailed prairie dogs could occur on these lands. Bald eagles and black-tailed prairie dogs have been observed or documented on the Welch lands. Bald eagles are a winter resident along the Tongue River; however no roost locations or nest sites have been identified. There is an active bald eagle nest approximately 2 miles downstream from the Welch lands on the Tongue River. There is a small (approximately 20 acre) black-tailed prairie dog town on the property. The "town" is not large enough to support a black-footed ferret population. No mountain plovers have observed in the area.

Effects of the Proposed Project: The proposed land exchange may affect, but is unlikely to adversely effect, the bald eagle and mountain plover; there will be no effect to the black-footed ferret and Ute ladies'-tresses. If the exchange is completed, BLM would acquire surface and coal ownership of the Welch lands shown in Figure 1-4. This would facilitate habitat management and protection of T&E species on these lands by the BLM. The exchange would create an area of public land management and public access adjacent to the Tongue River in Wyoming which does not currently exist outside the Big Horn National Forest. If the exchange is completed, future management of the land acquired in the Buffalo Field Office area would be determined through additional NEPA analysis/ planning decisions. The rights to develop the surface and coal would not remain in private ownership and the lands would not be available for private development that could potentially affect T&E species in the future. The rights to develop the

remainder of the mineral estate would not be changed if the exchange is completed.

PSO Tract

Existing Environment: A list of threatened, endangered, proposed and candidate plant and wildlife species that would potentially occur in the PSO Tract area was received from USFWS (USFWS January 2001). Threatened, endangered, proposed, and candidate species that could potentially be present in the region include: bald eagle, Canada lynx, black-footed ferret, Ute ladies' tresses, mountain plover and black-tailed prairie dog.

The federally listed plant species Ute ladies'-tresses (Spiranthes diluvialis) was not observed during the seasonal field surveys completed during 2000-2001.

The bald eagle (Haliaetus leucocephalus) is a threatened wildlife species which is a common winter resident and migrant and has been observed foraging on the study area during past surveys. This species nests along the Tongue River several miles east of the PSO Tract area.

The Canada lynx (Lynx canadensis) is a threatened wildlife species which was listed by the USFWS as potentially occurring in the region, however, habitat for this species is not present in the area of the PSO Tract.

The black-footed ferret (Mustela nigripes) is an endangered species which is found almost exclusively living in prairie dog towns. Several small prairie dog towns were observed on the PSO Tract (Figure 3-8). Ferret searches have not indicated that they are present in the area.

The mountain plover (Charadrius montanus) is proposed for listing. As indicated in Table 3-7, mountain plovers have not been documented on or near the PSO Tract. Suitable habitat for this species was surveyed in 2001 and no mountain plovers were observed.

The black-tailed prairie dog (Cynomys ludovicianus) is a candidate species. Several small prairie dog towns were observed on the PSO Tract. These prairie dog towns are located in NE¼ Section 21, NW¼ Section 22, SE¼ Section 20, NE¼ Section 29 and NW¼ Section 27, T.58N., R.84N. (Figure 3-8). Several other prairie dog towns are known to exist within several miles of the PSO Tract.

Effects of the Proposed Project: The proposed land exchange may affect, but is unlikely to adversely affect, the bald eagle, Canada lynx, black-footed ferret, black-tailed prairie dog, Ute ladies'-tresses, and mountain plovers. If the exchange is completed as proposed, P&M would acquire ownership of the federal coal included

in the PSO Tract. The surface of the PSO Tract is privately owned, and P&M is the primary surface land owner. P&M proposes to mine the coal if they acquire it.

The potential for direct or indirect effects to Ute ladies'-tresses would be minimal. The nearest known population occurrence of this species lies more than 100 miles southeast of the PSO Tract. The plant was not observed during the seasonal field surveys completed on the PSO Tract during 2000-2001. Prior to approval of the mining and reclamation plan, additional surveys would be required. Because of the ability of this species to persist below-ground or above-ground without flowering, single season surveys that meet the current USFWS survey guidelines may not detect populations. As a result, part or all of undetected populations could be lost to surface-disturbing activities.

If P&M acquires the federal coal in the PSO Tract and opens a surface coal mine, there would be new levels of human disturbance on the tract that could impact nesting and wintering bald eagles in the area. Eagles may alter foraging patterns as they fly around areas of active mining activity. Bald eagle foraging habitat would be lost on the tract during mining and before reclamation. This loss of potential prey habitat would be short-term. Foraging habitat that would be lost during mining would be replaced as reclamation proceeds on mined-out areas. The potential for eagles to collide with or be electrocuted by electric power lines on the mine site is minimal due to the use of raptor safe power lines. An increase in the volume and frequency of traffic on the roads accessing the PSO Tract may result in an increase in vehicular collisions and roadside carcasses. This could result in an increase of bald eagle foraging along roads in this area.

If the exchange is completed as proposed, there should be no effect on Canada lynx because there is no habitat for Canada lynx in the area of the PSO Tract.

The potential for direct or indirect effects to the black-footed ferret are expected to be minimal if the exchange is completed and P&M acquires and mines the coal in the PSO Tract. There are no known populations of this species in this area. Ferret searches of the small prairie dog towns located on the PSO Tract found no indication of ferrets. Prior to approval of the mining and reclamation plan, additional surveys would be required.

Mountain plovers could be impacted by the disturbance of suitable habitat on the tract during mining operations, if the exchange is completed and P&M acquires and mines the coal in the PSO Tract. Mountain plovers have not been documented on or near the tract and no mountain plovers were observed during surveys of suitable habitat for this species in 2001. Prior to approval of the mining and reclamation plan, additional surveys would be required and restoration of mountain plover habitat could be required as part of the mining and reclamation permit.

There would be direct and indirect effects on individuals and populations of the black-tailed prairie dog if the exchange is completed and P&M acquires and mines the coal in the PSO Tract. Individuals and colonies on the tract would be impacted by mine disturbance. Increased vehicle traffic would increase the potential for vehicle collisions, reducing population levels in colonies adjacent to existing and new roads.

Regulatory Requirements and Mitigation for PSO Tract: If the exchange is completed, P&M would acquire ownership of the federal coal included in the PSO Tract. Ownership of the coal does not authorize mining operations. No operations can occur on the leased lands until the approval of a state mining and reclamation permit under the applicable Wyoming state regulations (see Section 1.2: Regulatory Authority and Responsibility).

As part of the permit application and approval processes, P&M would be required to conduct additional surveys and other evaluations as needed to ensure compliance with the ESA. Coordination with the USFWS during the permit application review process should resolve any potential impacts that are confirmed. If the impacts cannot be satisfactorily resolved, the State regulatory authority would condition any resulting permit to mine coal with species-specific protective measures. The permit application and approval process would be based on the most current survey information and an actual detailed site-specific mining and reclamation proposal.

The following is a partial list of measures that the State of Wyoming could require as part of the mining and reclamation permit in accordance with the state regulatory requirements:

- Avoiding bald eagle disturbance;
- Restoring bald eagle foraging areas disturbed by mining;
- Restoring mountain plover habitat;
- Using raptor safe power lines;
- Surveying for Ute ladies'-tresses if habitat is present;
- Surveying for mountain plover if habitat is present;
- Surveying for black-footed ferrets in prairie dogs towns potentially affected by mining.

CUMULATIVE IMPACTS

If the exchange is completed as proposed, BLM and USFS would acquire surface lands and minerals currently owned by P&M in three areas of Wyoming (described in Chapter 2 of this DEIS). P&M would acquire the federal coal included in the PSO Tract (also described in Chapter 2 of this DEIS).

Acquisition of the Bridger lands and JO Ranch lands would have small but beneficial cumulative effects on the T&E plant and animal species in these areas because the tracts offered for exchange are relatively small inholdings of private land surrounded by USFS- and BLM-administered lands. Federal surface management in these areas would be consolidated and the opportunity for private surface developments, such as subdivisions and/or construction activities, which could impact T&E species on these lands and the surrounding public lands would be eliminated.

Acquisition of the Welch lands, which are surrounded by other private lands, would have a small but beneficial cumulative effect on T&E species on these lands because the opportunity for private surface development, such as subdivisions or construction activities which could impact T&E species, would be eliminated. Opportunities for recreational activities on the Welch lands would be increased if they become public lands, which may have impacts on T&E species. Opportunities for coal development would require state approval if the exchange is completed and the coal is acquired by BLM. Opportunities for oil and gas development would be unchanged on these lands because the oil and gas estate would remain in private ownership.

If the exchange is completed as proposed and P&M acquires and mines the coal in the PSO Tract, the mining operations would contribute to cumulative effects to T&E plant and wildlife species in the PRB. Other activities that are contributing to cumulative effects to T&E plant and wildlife species in the PRB include coal mining in Campbell and Converse Counties, Wyoming and Big Horn County, Montana; conventional and CBM oil and gas development; uranium mining; sand, gravel, and scoria mining; ranching; agriculture; road, railroad, and power plant construction; recreational activities; and rural and urban housing development. Mining and construction activities and urban development tend to have more intense impacts on fairly localized areas, while ranching, recreational activities, and oil and gas development tend to be less intensive but spread over larger areas. Oil and gas development and mining activities have requirements for reclamation of disturbed areas as resources are depleted. The net area of energy disturbance in the Wyoming PRB is increasing overall, however, as new areas of disturbance are added, mined-out areas are restored and reclaimed, and oil and gas well sites are reclaimed when depleted oil and gas wells are abandoned.

The total acreage affected by coal mining and oil and gas development would not be disturbed simultaneously, because development would occur over the life of the operations. Some of the disturbed acreage would be reclaimed or would be in the process of being reclaimed when new disturbances are initiated. In the near future, the amount of disturbed T&E plant and wildlife habitats is likely to increase, although reclamation would eventually overtake new development.

Cumulative effects would also occur to T&E plant and wildlife resources as a result of indirect impacts. One factor is the potential import and spread of noxious weeds around roads and facilities. Noxious weeds have the ability to displace native vegetation and hinder reclamation efforts. If weed mitigation and preventative procedures are applied to all construction and reclamation practices, the impact of noxious weeds on T&E plants and wildlife would be minimized.

In reclaimed areas, vegetation cover often differs from undisturbed areas. In the case of surface coal mines, re-established vegetation would be dominated by species mandated in the reclamation seed mixtures (to be approved by WDEQ). The majority of the approved species are native to the area, however, reclaimed areas may not serve ecosystem functions presently served by undisturbed vegetation communities and habitats, particularly in the short-term, when species composition, shrub cover, and other environmental factors are likely to be different. Establishment of noxious weeds and alteration of vegetation reclaimed areas has the potential to alter T&E plant and wildlife habitat composition and distribution. As a result, shifts in habitat composition or distribution may affect T&E plant and wildlife species in the PRB.

USFS INTERMOUNTAIN REGION SENSITIVE SPECIES

Sensitive species are defined as those plants and animal species identified by the Regional Forester for which population viability is a concern as evidenced by: 1) significant current or predicted downward trends in population numbers or density, or 2) significant current or predicted downward trends in habitat capability that would reduce a species' existing distribution (USFS Manual 2670.5).

The USFS objective for sensitive species management is to "develop and implement management practices to ensure that species do not become threatened or endangered because of Forest Service actions" (USFS Manual 2670.22). There are numerous sensitive species that do or could occur within the analysis area.

The following fish and wildlife species have been designated as Sensitive by the Intermountain Region of the USFS and may occur in the analysis area.

USFS Intermountain Fish and Wildlife Sensitive Species

Name	**Status** *
Fish:	
Colorado River cutthroat trout (Oncorhynchus clarki pleuriticus)	K
Snake River fine spotted cutthroat trout (Oncorhynchus clarki sp.)	NS
Wildlife:	
Spotted frog (Rana pretiosa)	S
Common loon (Gavia immer)	NS
Harlequin duck (Histrionicus histrionicus)	NS
Trumpeter swan (Cyngus buccinator)	NS
Boreal owl (Aegolius funereus)	S
Flammulated owl(Otus flammeolus)	S
Three-toed woodpecker (Picoides tridactylus)	S
Townsend's big-eared bat (Plecotus townsendii)	NS
Wolverine (Gulo gulo)	K
Fisher (Martes pinnanti)	NS
Northern goshawk (Accipiter gentilis)	S
Great gray owl (Strix nebulosa)	S
Spotted bat (Euderma maculatum)	NS
Peregrine falcon (Falco pergrinus)	NS

*Status Key: K = known, S = suspected in area of influence of proposed action, NS = not suspected in area of influence of proposed action

Suitable habitat exists for spotted frog, boreal owl, flammulated owl, three-toed woodpecker, wolverine, fisher, northern goshawk, and great gray owl.

Spotted Frog, Population and Habitat Status

No spotted frogs have been located on the Kemmerer District although suitable habitat exists. The most recent survey work was conducted in Ham's Fork in 1999 (Patla 2000). No survey work has been done on the Bridger parcels. Range maps for spotted frogs conflict; some include the Kemmerer Ranger District while others do not.

Spotted frog habitat primarily includes oxbow ponds (without fish) with emergent sedges (Carex spp.) located in wet meadows at the edge of lodgepole pine (Pinus contorta) forest. Frogs move considerable distances from water after breeding, often frequenting mixed conifer and subalpine forests, grasslands, and shrublands of sagebrush and rabbitbrush. Beaver ponds also provide good spotted frog habitat.

Flammulated Owl, Population and Habitat Status

Flammulated owls have not been documented on the Kemmerer Ranger District, but no survey work has occurred. This owl prefers ponderosa pine habitat, but will also utilize Douglas-fir, aspen, and/or limber pine. Douglas-fir, aspen, and limber pine are present within the Bridger parcels but in limited quantities. The flammulated owl requires cavities for nesting and forages primarily on forest insects. This owl is suspected to be present, but rare.

Boreal Owl, Three-Toed Woodpecker, Great Gray Owl, Goshawk, Population and Habitat Status

These species inhabit montane stands of coniferous, deciduous and mixed trees. No survey work has been done within the analysis area, but suitable habitat exists, and the lack of documented sightings is probably the result of lack of survey efforts.

Boreal owls have been documented to the north along the Grey's River. All breeding sites were above 2100 meters or approximately 6900 ft. (Clark 1994). The boreal owl prefers the high elevation spruce-fir forests or aspen for foraging and nesting. Nesting habitat structure consists of forest with a relatively high density of large trees, open understory, and multilayered canopy. Boreal owls are cavity nesters and are dependent on the presence of primary excavators such as the northern flicker (Wisdom et al. 2000).

No documented sightings of three-toed woodpeckers exist for the Kemmerer District. These woodpeckers require snags in coniferous forests for nesting, feeding, perching and roosting. In Wyoming forests, the three-toed woodpecker is found in only large, unbroken stands of mature spruce-fir and lodgepole pine. Snags with DBH of 12-16 inches and heights of 19.6 to 39.4 ft. are preferred (USFS 1991). This woodpecker forages on insects, mainly in dead trees, but will also feed in live trees. Wood boring beetles are preferred, and this woodpecker is

adapted to shift foraging areas to capitalize on high concentrations of these beetles (Wisdom et al. 2000).

No documented sightings of great gray owls exist for the Kemmerer District. The great gray owl uses mixed coniferous forests usually bordering small openings or meadows. Semi-open areas, where small rodents are abundant, near dense coniferous forests, for roosting and nesting, is optimum habitat for the great gray owls. Broken top snags, stumps, dwarf-mistletoe platforms, or old hawk and raven nests are utilized for nesting.

The WGFD Wildlife Observation System contains 38 goshawk records since 1979 for the Kemmerer District. The goshawk prefers old growth forests for nesting but forages in a variety of habitats. Goshawk habitat was modeled for the Commissary Ridge/Tunp Range Landscape Scale Assessment (2001) utilizing the following factors: conifer vegetation, northerly aspects between 270 and 90 degrees, and slopes less than 30 percent. Potential habitat was mostly located in the lower elevations along Hams Fork and Fontenelle Creeks.

Wolverine and Fisher, Population and Habitat Status

Wolverines inhabit high mountain forests of dense conifers; primarily in true fir (Abies) cover types as well as subarctic-alpine tundra. They are widespread, but occur in low densities. They are difficult to observe so frequency of sightings may not reflect population size. Maintenance of wolverine populations is dependent on large areas free from land-use activities that permanently alter their habitat (USFS 1994). Wolverines have been documented in several locations near the analysis area.

Fishers use closed coniferous and mixed forests. They prefer extensive, mature to old growth spruce-fir forests with high canopy closure. There are no documented sightings on the Bridger parcels, either historic or recent.

USFS Intermountain Region Sensitive Plant Species

Region 4 - BTNF Potential Sensitive Plant Species

SPECIES	HABITAT/ COMMUNITY	ELEVATION (Feet)	SUCCESSION
Pink agoseris (Agoseris lackschewitzii)	Subalpine wet meadow, saturated soils	8500-10600	Mid to late
Sweet-flowered rock jasmine (Androsace chamaejasme var. carinata)	Montane rock crevices in rocky limestone or dolomite soils	8500-10800	Mid to late
Soft aster (Aster mollis)	Sagebrush grasslands and mountain meadows in calcareous soils	6400-8500	Early to mid
Meadow milkvetch (Astragalus diversifolius var. diversifolius)	Moist, often alkaline meadows and swales in sagebrush valleys	4400-6300	Mid
*Starveling milkvetch (Astragalus jejunus var. jejunus)	Dry barren ridges and bluffs of shale and stone, clay or cobblestones	6000-7100	Early to late
*Payson's milkvetch (Astragalus paysonii)	Disturbed areas and recovering burns on sandy soil	6700-9600	Early
Seaside sedge (Carex incurviformis)	Alpine and subalpine moist tundra and wet rock ledges	10000-12200	Late
Seaside sedge (Carex incurviformis)	Alpine and subalpine moist tundra and wet rock ledges	10000-12200	Late
Black and purple sedge (Carex luzulina var. atropurpurea)	Subalpine wet meadows and stream sides	10000-10600	Mid
Wyoming tansymustard (Descuraania torulosa)	Sparely vegetated sandy slopes at base of cliffs of volcanic breccia or sandstone	8300-10000	Early to mid
Boreal draba (Draba borealis)	Moist north-facing limestone slopes and cliffs and shady stream sides	6200-8600	Mid

Region 4 - BTNF Potential Sensitive Plant Species (continued)

SPECIES	HABITAT/ COMMUNITY	ELEVATION (Feet)	SUCCESSION
Rockcress draba (Draba densifolia var. apiculata)	Moist gravelly alpine meadows and talus slopes, often on limestone-derived soils	10400-12000	Mid to late
Wooly fleabane (Erigeron lanatus)	Alpine or subalpine limestone talus slopes	11000	Mid to late
Narrowleaf goldenweed (Haplopappus macronema var. linearis)	Semi-barren, whitish clay flats and slopes, gravel bars, and sandy lake shores	7700-10300	Mid to late
*Payson's bladderpod (Lesquerella paysonii)	Rocky, sparsely-vegetated slopes, often calcareous substrates	6000-10300	Mid to late
Naked-stemmed parrya (Parrya nudicaulis)	Alpine talus, often on limestone substrates	10700-11400	Early to late
*Creeping twinpod (Physaria integrifolia var. monticola)	Barren, rocky, calcareous hills and slopes	6500-8600	Mid
Greenland primrose (Primula egaliksensis)	Wet meadows along streams and calcareous montane bogs	6600-8000	Mid
Weber's saw-wort (Saussurea weberi)	Alpine talus and gravel fields, often on limestone	10200-11200	Mid to late

* Present on Kemmerer Ranger District as per the Wyoming Natural Diversity database

Population and Habitat Status

Four sensitive plant species are known to occur on the Kemmerer Ranger District according to the Wyoming Natural Diversity database: creeping twinpod, Payson's milkvetch, Payson's bladderpod, and Starveling milkvetch. These plants are not documented within the project area, although no survey work has occurred.

The following sensitive plant species are probably not present as their habitat requirements are outside the elevation range of the project area (7200 ft. to 9300 ft.): meadow milkvetch, seaside sedge, black and purple sedge, rockcress draba, wooly fleabane, naked-stemmed parrya, and Weber's saw-wort.

Status of the following species is unknown; they may or may not occur in the project area: pink agoseris, sweet-flowered rock jasmine, soft aster, Wyoming tansymustard, boreal draba, Narrowleaf goldenweed, and Greenland primrose.

Effects of the Proposed Project on USFS Intermountain Region Sensitive Species: The Proposed Action would consolidate USFS management in the area of the Bridger parcels. This would facilitate habitat management and protection of USFS Intermountain Region sensitive species on the tracts by the USFS and ensure that the privately-owned Bridger parcels would not be sold to another private party and potentially subdivided in the future.

BLM SENSITIVE SPECIES EVALUATION
Bureau of Land Management
Pittsburg & Midway Land Exchange

INTRODUCTION

BLM Wyoming has prepared a list of sensitive species to focus species management efforts towards maintaining habitats under a multiple use mandate. The authority for this policy and guidance comes from the ESA, as amended; Title II of the Sikes Act, as amended; the FLPMA; and the Department Manual 235.1.1A., General Program Delegation, Director, BLM.

The goals of the sensitive species policy are to:

- Maintain vulnerable species and habitat components in functional BLM ecosystems.
- Ensure sensitive species are considered in land management decisions.
- Prevent a need for species listing under the ESA.
- Prioritize needed conservation work with an emphasis on habitat.

PROJECT DESCRIPTION

Under the Proposed Action, BLM would acquire the Bridger lands which lie outside of the BTNF, the JO Ranch lands and the Welch lands (see Figures 1-1, 1-2, 1-3, and 1-4 and the land descriptions in Section 2.1 of the DEIS text). The Bridger and JO Ranch lands are private inholdings surrounded by lands administered by the USFS and BLM. The Welch lands are surrounded by private lands. The current owner of the lands being offered for exchange is P&M. P&M is offering to exchange the surface estate of the lands and the portion of the mineral estate that they own on those lands. P&M's ownership of the mineral estate, which is described in Section 2.1, varies from tract to tract.

If the exchange is completed under the Proposed Action, P&M would acquire an amount of federal coal equivalent in value to the properties they are offering for exchange. For the purposes of this analysis, it is assumed that P&M would acquire all of the federal coal underlying the PSO Tract (see Figures 1-1 and 1-5 of the DEIS text and the land description in Section 2.1 of the DEIS text). The majority of the surface of the PSO Tract is privately owned, and P&M is the primary private surface owner. There are 6.41 acres of BLM-administered public surface included in the PSO Tract (see Figure 3-9). If P&M acquires the coal included in the PSO Tract, they propose to open a surface coal mine and recover the coal in the tract as well as some privately-owned coal adjacent to the tract. The area proposed for mining is shown in Figure 2-2.

SPECIES OCCURRENCE AND HABITAT DESCRIPTIONS

Sensitive species were listed for the BLM field offices within their range. Numerous sensitive species do or could occur within the tracts being exchanged. Specialized habitat requirements (i.e. caves, cliffs, calcareous rock outcrops) make occupation for other sensitive species unlikely. Table 1 lists BLM sensitive species and summarizes their habitat requirements.

DETERMINATION OF EFFECTS

Bridger Lands, JO Ranch Lands, and Welch Lands

The proposed land exchange will be a beneficial effect for sensitive species management on the lands being acquired by BLM.

The BLM will acquire surface ownership of the Bridger lands outside the BTNF, the JO Ranch lands, and the Welch lands. Mineral estates owned by P&M within these tracts would also be exchanged to BLM. Development rights would not remain in private ownership, and the lands would not be available for private development that could impact sensitive species. Future management of the lands acquired by BLM would be determined through additional NEPA analysis/planning decisions where sensitive species management will be considered.

PSO Tract

Private ownership of the PSO Tract mineral estate may impact individuals and habitat, but is unlikely to lead towards federal listing of BLM sensitive species.

If the exchange is completed, P&M would acquire ownership of the federal coal included in the PSO Tract. Ownership of the coal does not authorize mining operations. No operations can occur on the leased lands until the approval of a state mining and reclamation permit under the applicable Wyoming state regulations (see Section 1.2: Regulatory Authority and Responsibility).

As part of the permit application and approval processes, P&M would be required to conduct wildlife surveys and other evaluations to ensure compliance with the ESA, the Migratory Bird Treaty Act, and other state and federal legislation. Coordination with the USFWS during the permit application review process should minimize potential impacts. If the impacts cannot be satisfactorily resolved, the State regulatory authority would condition any resulting permit to mine coal with species-specific protective measures. The permit application and approval process would be based on the most current survey information and an actual detailed site-specific mining and reclamation proposal.

Table 1. Bureau of Land Management Sensitive Species, Habitat Requirements, and Occurrence by Field Office

Common Name (scientific name)	Habitat	Kemmerer Field Office[1]	Rawlins Field Office[2]	Buffalo Field Office[3]
Amphibians				
Boreal toad (Bufo boreas boreas)	Pond margins, wet meadows, riparian areas	Yes	Yes	No
Great Basin Spadefoot (Spea intermontana)	Spring seeps, permanent and temporary water	Yes	Yes	No
Northern leopard frog (Rana pipiens)	Beaver ponds, permanent water in plains and foothills	Yes	Yes	Yes
Spotted frog (Ranus pretiosa)	Ponds, sloughs, small streams	Yes	No	Yes
Birds				
Baird's sparrow (Ammodramus bairdii)	Grasslands, weedy fields	No	Yes	Yes
Brewer's sparrow (Spizella breweri)	Basin-prairie shrub	Yes	Yes	Yes
Burrowing owl (Athene cunicularia)	Grasslands, basin-prairie shrub	Yes	Yes	Yes
Columbian sharp-tailed grouse (Tympanuchus phasianellus columbianus)	Grasslands	No	Yes	No
Ferruginous hawk (Buteo regalis)	Basin-prairie shrub, grasslands, rock outcrops	Yes	Yes	Yes
Greater sage-grouse (Centrocercus urophasianus)	Basin-prairie shrub, mountain-foothill shrub	Yes	Yes	Yes
Loggerhead shrike (Lanius ludovicianus)	Basin-prairie shrub, mountain-foothill shrub	Yes	Yes	Yes
Long-billed curlew (Numenius americanus)	Grasslands, plains, foothills, wet meadows	Yes	Yes	Yes
Northern goshawk (Accipiter gentilis)	Conifer and deciduous forests	Yes	Yes	Yes

[1] Bridger lands to be managed by the Kemmerer Field Office.
[2] JO Ranch lands to be managed by the Rawlins Field Office.
[3] Welch lands to be managed by the Buffalo Field Office and the PSO Tract to be exchanged.

Table 1. Bureau of Land Management Sensitive Species, Habitat Requirements, and Occurrence by Field Office (continued)

Common Name (scientific name)	Habitat	Kemmerer Field Office[1]	Rawlins Field Office[2]	Buffalo Field Office[3]
Peregrine falcon (Falco peregrinus)	Cliffs	Yes	Yes	Yes
Sage sparrow (Amphispiza billneata)	Basin-prairie shrub, mountain-foothill shrub	Yes	Yes	Yes
Sage thrasher (Oreoscoptes montanus)	Basin-prairie shrub, mountain-foothill shrub	Yes	Yes	Yes
Trumpeter swan (Cygnus buccinator)	Lakes, ponds, rivers	Yes	Yes	Yes
White-faced ibis (Plegadis chihi)	Marshes, wet meadows	Yes	Yes	Yes
Yellow-billed cuckoo (Coccyzus americanus)	Open woodlands, streamside willow and alder groves	Yes	Yes	Yes
Fish				
Bluehead sucker (Catostomus discobolus)	Bear, Snake, and Green river drainages, all waters	Yes	Yes	No
Bonneville cutthroat (Oncorhynchus clarki utah)	Bear River drainage	Yes	No	No
Colorado cutthroat (O. clarki pleuriticus)	Colorado River drainage	Yes	Yes	No
Fine-spotted cutthroat (O. clarki spp.)	Snake River drainage	Yes	No	No
Flannelmouth sucker (Catostomus latipinnis)	Colorado River drainage, large rivers, streams and lakes	Yes	Yes	No
Leatherside chub (Gila copei)	Bear, Snake, and Green river drainages	Yes	No	No
Roundtail chub (Gila robusta)	Colorado River drainage, mostly large rivers, streams and lakes	Yes	Yes	No

[1] Bridger lands to be managed by the Kemmerer Field Office.
[2] JO Ranch lands to be managed by the Rawlins Field Office.
[3] Welch lands to be managed by the Buffalo Field Office and the PSO Tract to be exchanged.

Table 1. Bureau of Land Management Sensitive Species, Habitat Requirements, and Occurrence by Field Office (continued)

Common Name (scientific name)	Habitat	Kemmerer Field Office[1]	Rawlins Field Office[2]	Buffalo Field Office[3]
Yellowstone cutthroat (O. clarki bouvieri)	Mountain streams and rivers in Yellowstone drainage	No	No	Yes
Mammals				
Dwarf Shrew (Sorex nanus)	Mountain foothill shrub, grasslands	Yes	Yes	Yes
Fringed myotis (Myotis thysanodes)	Conifer forests, woodland chaparral, caves and mines	No	Yes	Yes
Long-eared myotis (Myotis evotis)	Conifer and deciduous forest, caves and mines	Yes	Yes	Yes
Pocket gopher (Thomomys spp.)	Grasslands and shrublands	Yes	Yes	No
Pygmy rabbit (Brachylagus idahoensis)	Basin-prairie and riparian shrub	Yes	No	No
Spotted bat (Euderma maculatum)	Cliffs over perennial water, basin-prairie shrub	No	No	Yes
Swift fox (Vulpes velox)	Grasslands	No	Yes	Yes
Townsend's big-eared bat (Corynorhinus townsendii)	Forests, basin-prairie shrub, caves and mines	No	Yes	Yes
White-tailed prairie dog (Cynomys leucurus)	Basin-prairie shrub, grasslands	Yes	Yes	No
Plants				
Beaver Rim phlox (Phlox pungens)	Sparsely vegetated slopes on sedimentary substrates; 6,000 to 7,400 ft.	Yes	No	No
Cary beardtongue (Penstemon caryi)	Calcareous rock outcrops and rocky soil in sage, juniper, Douglas-fir and limber pine communities, 5200 to 8500 ft.	No	No	Yes

[1] Bridger lands to be managed by the Kemmerer Field Office.
[2] JO Ranch lands to be managed by the Rawlins Field Office.
[3] Welch lands to be managed by the Buffalo Field Office and the PSO Tract to be exchanged.

Table 1. Bureau of Land Management Sensitive Species, Habitat Requirements, and Occurrence by Field Office (continued)

Common Name (scientific name)	Habitat	Kemmerer Field Office[1]	Rawlins Field Office[2]	Buffalo Field Office[3]
Cedar Rim thistle (Cirsium aridum)	Chalky hills, gravelly slopes, & fine textured sandy-shale draws; 6,700 to 7,200 ft.	No	Yes	No
Dorn's twinpod (Physaria dornii)	Dry, calcareous-shaley soils in mountain mahogany and rabbitbrush communities; 6,500 to 7,200 ft.	Yes	No	No
Entire-leaved peppergrass (Lepidium integrifolium integrifolium)	Greasewood communities on clay hummocks and moist alkaline meadows; 6,200 to 6,770 ft.	Yes	No	No
Gibbens' beardtongue (Penstemon gibbensii)	Sparsely vegetated shale or sandy-clay slopes; 5,500 to 7,700 ft.	No	Yes	No
Laramie columbine (Aquilegia laramiensis)	Crevices in granite, 6,400 to 8,000 ft.	No	Yes	No
Laramie false sagebrush (Sphaeromeria simplex)	Cushion plant communities on rocky limestone; 7,500 to 8,600 ft.	No	Yes	No
Large-fruited bladderpod (Lesquerella macrocarpa)	Gypsum-clay hills, benches, and flats; 7,200 to 7,700 ft.	Yes	No	No
Nelson's milkvetch (Astragalus nelsonianus)	Specialized habitats in sparsely vegetated shrubland and cushion plant communities; 5,200 to 7,600 ft.	No	Yes	No
Pale blue-eyed grass (Sisyrinchium pallidum)	Wet meadows, streambanks, roadside ditches, and irrigated meadows; 7,000 to 7,900 ft.	No	Yes	No
Persistent sepal yellowcress (Rorippa calycina)	Riverbanks and shorelines on sandy soils	No	Yes	No
Porter's sagebrush (Artemisia porteri)	Sparsely vegetated badlands of ashy or tufaceous mudstone and clay slopes 5300 to 6500 ft.	No	No	Yes
Prostrate bladderpod (Lesquerella prostrata)	Sparse communities on slopes and rims of clay & soft sandstones with fine gravel surface; 7,200 to 7,700 ft.	Yes	No	No
Trelease's milkvetch (Astragalus racemosus treleasei)	Sagebrush communities on shale or limestone outcrops or barren clay slopes; 6,500 to 8,200 ft.	Yes	No	No

[1] Bridger lands to be managed by the Kemmerer Field Office.
[2] JO Ranch lands to be managed by the Rawlins Field Office.
[3] Welch lands to be managed by the Buffalo Field Office and the PSO Tract to be exchanged.

Table 1. Bureau of Land Management Sensitive Species, Habitat Requirements, and Occurrence by Field Office (continued)

Common Name (scientific name)	Habitat	Kemmerer Field Office[1]	Rawlins Field Office[2]	Buffalo Field Office[3]
Tufted twinpod (Physaria condensata)	Sparsely vegetated shale slopes and ridges; 6,500 to 7,000 ft.	Yes	No	No
Weber's scarlet gilia (Ipomopsis aggregata weberi)	Coniferous forest openings and scrub oak woodlands; 8,500 to 9,600 ft.	No	Yes	No
William's wafer parsnip (Cymopterus williamsii)	Open ridgetops and upper slopes with exposed limestone outcrops or rockslides, 6000-8300 ft.	No	No	Yes

[1] Bridger lands to be managed by the Kemmerer Field Office.
[2] JO Ranch lands to be managed by the Rawlins Field Office.
[3] Welch lands to be managed by the Buffalo Field Office and the PSO Tract to be exchanged.

STATE SPECIES OF SPECIAL CONCERN

The coal mining unsuitability criteria, which are listed in the federal coal management regulations at 43 CFR 3461, were applied to federal coal lands in Sheridan County in the early 1980s and in the mid 1990s by the BLM. The 1980s results were included in the 1985 *Buffalo Resource Area Resource Management Plan*. The results of the mid-1990s unsuitability criteria application are summarized in the 2001 *Approved Resource Management Plan for Public Lands Administered by the BLM Buffalo Field Office*.

The unsuitability findings for the PSO Tract according to the 1985 *Buffalo Resource Area Resource Management Plan* and the 2001 *Approved Resource Management Plan for Public Lands Administered by the BLM Buffalo Field Office* are summarized in Appendix B of this DEIS. The 1985 findings for Criteria 14 and 15 are discussed in more detail below.

Portions of the PSO Tract totaling about 520 acres were found to be unsuitable for coal leasing and development under Criterion 14 (Habitat for Migratory Birds) when the unsuitability criteria were applied in the early 1980s. The designation was applied due to the presence of breeding habitat for the Lewis' woodpecker. This species is known to breed in the ponderosa pine habitat in the area of Ash Creek. BLM has reviewed this unsuitability finding and determined that Lewis' woodpeckers have been dropped from the list of "Migratory non-game birds of management concern in the U.S." BLM advised USFWS of their intent to drop the unsuitability designation for Lewis' woodpecker habitat under Criterion 14 within this area and to complete a land use plan maintenance action to reflect this. In a letter dated August 20, 2001, USFWS indicated their willingness to concur with the proposed change in unsuitability designation for Criterion 14; however, they requested that the scoria hillsides on the western edge of the exchange area be removed from the exchange. If those areas remain in the exchange tract, the USFWS will require monitoring of the Lewis' woodpecker as part of their mining permit (USFWS, 2001b).

The 1985 BLM *Buffalo Resource Area Resource Management Plan* found approximately 1,200 acres of federal coal to be unsuitable due to the presence of the Lewis' woodpecker under Criterion 15, Habitat for State High-Interest Species, and some of this acreage overlaps with the western edge of the PSO Tract. The WGFD submitted comments in response to the exchange notice identifying the Lewis' woodpecker as a state species of special concern that is found in the Ash Creek area in a letter dated January 30, 2001. In their comment letter, WGFD stated that they believe the exchange "will not significantly impact Lewis' woodpeckers, and that any concerns related to the Lewis' woodpecker could be adequately addressed during mine planning if active coal mining is proposed." When contacted, WGFD indicated that, due to the extent of their occurrence in

Wyoming, Lewis' woodpeckers are not considered rare or in need of management emphasis.

On October 24, 2001, the *Buffalo Resource Area Resource Management Plan* designation of a portion of the Sheridan Review Area as "unsuitable pending further study" for Lewis' Woodpecker habitat was removed in a plan maintenance action signed by the Field Office Manager.

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